

# Pseudocyst of Auricle-Our Experience with a Simple Treatment Technique

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## ABSTRACT

**Introduction:** Pseudocyst of the auricle is a benign asymptomatic swelling, which usually occurs on the lateral and anterior aspect of the auricle most commonly seen in young patients. The condition is difficult to treat medically and surgically and is known for recurrence.

**Material and Methods:** 20 patients with Pseudocyst of Auricle were treated at our tertiary hospital using a simple technique with insertion of a sized infant feeding tube as drainage tube post incision and drainage till drainage subsided and patients were followed up for recurrences.

**Results:** Patients included 16 males and four females, aged between 24-42 years of age. All 20 cases were unilateral; 18 of which involved left pinna. None of the patients gave any history of obvious trauma or bleeding disorders. All 20 patients showed complete relief from the condition with no recurrences at three months of follow up.

**Conclusion:** With our experience with 20 cases we put forward a simple and cost effective technique as a successful treatment option for pseudocyst of the auricle.

**Keywords:** Cysts, Ear Auricle, Ear Cartilage, Ear External, Drainage, Hematoma

## INTRODUCTION

Pseudocyst of the auricle was first reported by Hartmann in 1846 and first described in English literature by Engel in 1966. The lesion is described as a benign, idiopathic, painless, spontaneous dome shaped cystic swelling on the anterior surface of the auricle.<sup>1-3</sup>

It commonly occurs on the lateral and anterior aspect of the auricle including cymba concha, scaphoid fossa and triangular fossa.<sup>4</sup> (Figure-1) The etiology of this condition is largely unknown and two hypotheses are proposed in most texts. The first hypothesis attributes chronic low-grade trauma as being the precursor in the formation of the pseudocyst. It is argued that chronic trauma induces cartilage degeneration due to release of the lysozymal enzymes with progressive dilatation and cyst formation within the auricular cartilage. The second theory hypothesizes congenital embryonic dysplasia of the auricular cartilage as the predisposing factor in the development of pseudocyst. The auricle is developed from six tubercles around the first and the second branchial arches. Maldevelopment of these arches may result in residual tissue planes within the cartilage, which may reopen later in life, giving rise to the formation of the pseudocyst.<sup>5</sup>

This pathology has been given various terms such as intracartilaginous cyst, endochondral pseudocyst, cystic chondromalacia and benign idiopathic cystic chondromalacia. In everyday practice it seems to occur unilaterally following minor trauma such as rubbing of ear, using a hard pillow or pulling the ear in majority of cases. The swelling commonly

ranges from 1-5 cm in diameter, containing clear serous fluid.<sup>6</sup> Histologically, pseudocyst is characterized by an intercartilaginous cavity lacking in epithelial lining, with thinned cartilage and hyalinizing degeneration along the border of the cystic space and granulation tissue. The diagnosis of the auricular pseudocyst is made clinically by routine histology and analysis of the aspirate though seldom undertaken. Possible differential diagnosis includes chondrodermatitis helices, sub perichondrial haematoma and relapsing perichondritis but this can usually be distinguished from clinical features.<sup>5</sup>

The treatment options reported in the literature include, Simple aspiration followed by pressure dressing applied on the pinna for upto two weeks, high doses of oral corticosteroids, intralesional injections and after aspiration with application of bolster after surgical excision of cartilage.<sup>5</sup> Here we describe a simple technique of simple and cost effective incision and drainage followed by insertion of infant feeding tube in situ.

## MATERIAL AND METHODS

This prospective study included twenty cases of pseudocyst of the auricle, diagnosed at the outpatient of Department of ENT and Head and neck, of a tertiary care hospital in southern India over two years from October 2014 to September 2016 after due informed consent (In accordance to the declaration of Helsinki of 1975, as revised in 2000). The patients included 16 males and four females, aged between 24 to 42 years of age. All the 20 cases were unilateral; 18 of which involved left pinna. The most common presenting feature included a spontaneous pain less swelling in the scaphoid fossa and/or triangular fossa and cymba concha of varying duration approximating from three days to two months.

None of the patients gave any history of obvious trauma or bleeding disorders. All the patients underwent a detailed clinical examination and diagnosis of pseudocyst was given on the basis of clinical presentation, characteristics of the aspirated fluids, no evidence of infection, and absent signs of inflammation. Of the 20 patients, three already had sought treatment previously, elsewhere and on recurrence treatment was sought at our institute.

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## Procedure

Affected Pinna was cleaned and draped using aseptic precautions. The swelling was under local anesthesia (2% lidocaine with adrenaline) at the most dependent portion of the swelling, parallel to the cartilage and the serous fluid fully evacuated. This was followed by insertion of a drainage tube by making use of infant feeding tube (Size 6 FG) by cutting the distal end and sizing to 5cm, and suturing it in place and the incision with 5-0 prolene (Figure-2) The drainage tube was kept in place with minimal dressing and patients were reviewed after a week or till the discharge stopped completely and the tube was subsequently removed (Figure-3)

The specific period of tube placement ranged from one to two weeks and served the function of fluid drainage. Regular local dressing was done and broad-spectrum prophylactic antibiotics (Oral Cefixime 200 mg twice daily for five days) were given to patients to prevent any possible perichondritis.

## RESULTS

All twenty patients post-procedure had a drainage tube in place for at least a week. The patients were reviewed after a week and the auricle was checked for any persisting collection or discharge. The drainage tube was removed when there was no discharge present on the consecutive visits to the hospital. All patients of our study were completely relieved by this treatment strategy. No complications were encountered; no perichondritis or disfigurement of pinnae was noticed. Patients were followed up for a minimum period of three months with no recurrences and the end result being normally figured auricle in all cases.

## DISCUSSION

Pseudocyst of the auricle is a condition commonly affecting younger population, widely prevalent in the Chinese population as described by Engel<sup>2</sup> The disease is seen to affect more the male population rather than females as reported by Lim CM<sup>7</sup> with reported incidence of 87% in males. In our study also, 80% (16/20) male patients were seen. Clinically the pseudocyst presents as a benign, non-inflammatory, asymptomatic swelling on the lateral surface of the pinna, usually in the scaphoid or triangular fossa. Typically, the swelling develops in 4-12 weeks. The size ranges from 1-5cm in diameter that contains a clear or yellowish fluid. Histologically, pseudocyst is characterized by an intercartilaginous cavity lacking in epithelial lining, with thinned cartilage and hyalinizing degeneration along the border of the cystic space and granulation tissue. The etiology of the pseudocyst of the auricle is largely unknown. The observation that an auricular cyst often results after repeated minor trauma, such as rubbing, ear pulling, sleeping on hard pillows or wearing a motorcycle helmet or ear phones also has been proposed as the mechanism.<sup>5</sup> However, in our study, none of the patients had any history of trauma or bleeding diatheses. To support traumatic etiology, several pathogenic mechanisms have been proposed. Engel proposed that lysosomal enzymes might be released from chondrocytes and cause damage to the cartilage. However, analysis of the cyst contents revealed, a fluid rich in albumin, acid proteoglycans and rich in cytokine milieu, but lacking in lysosomal enzymes.<sup>4</sup> Two of the elevated isoenzymes, lactic dehydrogenase 4 (LDH- 4) and lactic dehydrogenase 5(LDH-5) are proposed to be major components of human auricular



Figure-1: (Original) Pseudocyst of the right auricle affecting scaphoid and triangular fossae.



Figure-2: (Original) Drainage tube in-situ with incision closed with prolene.



Figure-3: (Original) Same patient after removal of drainage tube after one week.

cartilage. These enzymes may be released from degenerated auricular cartilage due to repeated minor trauma.<sup>10</sup>

The condition is known to recur after simple modalities of treatment. Several treatment modalities have been described in literature with variable success. These techniques have been developed with the goal of successful drainage without damage to the healthy cartilage and prevent recurrences.<sup>8</sup> No treatment may result in permanent cauliflower deformity of the auricle. Medical treatment is unfortunately ineffective. The universal gold standard of the treatment is the preservation of the anatomical architecture of the pinna and prevention of recurrence.<sup>5</sup>

In this study we put forward a simple outpatient procedure as an effective method for the recurrence prevention and complete resolution of the Pseudocysts. This technique has proven to be advantageous as it avoids the need of repeated drainage, which

is painful for the patient. Here, a single sitting usually ensures complete drainage of the collected fluid and the drainage tube prevents the recollection during active phase of disease, with no requirement of a mastoid dressing. All these advantages make this technique an easy cost effective method for the notorious recurrences generally encountered in the management of Pseudocyst of Auricle, with age-old procedures like Incision and drainage followed by pressure bandage. Since no perichondritis was seen in our set of patients, this method is also beneficial in maintaining the cosmesis of the affected auricle, which is commonly affected in Pseudocyst.

## CONCLUSION

Drainage tube in-situ technique for drainage of pseudocyst of the auricle is a safe, easy, cost-effective and reliable technique, which reduces recurrence after surgery and provides a good cosmetic result with minimal morbidity to the patient. With this, authors encourage the usage of this technique in larger study samples so that statistical efficacy of the method in larger populations could be established.

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